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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE
May 2, 1931.

Not for publication without
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REPORTS FOR THE WEEK ENDING MAY 2, 1931.

HAVRE:

The past week has been much more favorable for farming operations and for growing vegetation than the previous one. Contrasted with the previous week, wind velocity has been very low. Temperatures were quite favorable. There, however, has been no precipitation and in many places the soil is becoming quite dry.

All of the early seeding on the rotations is completed. Also the varieties and miscellaneous grains. Seeding in the commercial fields is completed but the irrigated rotations are yet ready to seed.

Quite a number of plantings were made in the landscaping around the buildings. Forty-five ash trees from the old shelter belt were planted during the week. These trees were taken out of the old shelter belt in order to thin it out. There has been quite a little killing especially among the box-elder in both the 4 x 4 and 4 x 8 plantings in the shelter belt which was put in in 1917. It was decided to take out practically all of the box-elder, some of the ash, and a few of the elm in order that cultivating might be resumed. Grass has crowded in a great deal during the last year or two and if this continues it is quite certain that most of the trees will die. Practically all of the seedling Compass cherries and Wyant plums are also being pulled out. There was quite a little killing among the plums and cherries during the last summer and during the winter.

Native grasses are making a fair start, especially in the coulees and low ground where there is sufficient moisture. Showers are badly needed now to start grass. Domestic grasses show quite a lot of variation in growth. Crested wheat is unusually good this spring, even the plantings made 10 or 12 years ago are making good growth.

Some of the native trees and shrubs are showing leaf. Box-elder and choke cherry began leafing during the week. Gooseberries and some of the native currants were out the week before. Golden elder and honeysuckle around the buildings are pretty well in leaf. Purple sand cherry and lilac are starting. There seems to have been quite a lot of killing in the rugosa hybrid roses. The roots, however, are alive and it does not seem that any of the plantings are entirely dead.

Dr. S. E. Clarke, of the Dominion Range Experiment Station, Manyberry, Alberta, was a station visitor on May 1.

Maximum temperature 78; minimum 20; precipitation, none.

JUDITH BASIN:

The weather during the past week has been ideal for field work. Seeding of small grains, field peas and grasses were completed on the rotations. With the exception of winter wheat in Rotation 64, all winter wheat and winter rye plots were spring-toothed and seeded to Marquis.

Cutworms are doing serious damage to alfalfa fields. With the exception of a few scattered shoots, practically all alfalfa fields are as brown as they were in midwinter. New growth has started from the crowns but the worms keep the tips eaten back to the surface of the ground.

Pastures are making very slow growth due to the lack of sub-soil moisture. Wells are low, in fact many of the wells in this section of the State are dry. The wells on the station are still furnishing sufficient water for house use but it has been necessary to haul water for livestock for the past two weeks.

Maximum temperature 70; minimum 25; precipitation, none.
Precipitation for April, .89 inch.

HUNTLEY:

Stands of spring grains have improved during the week until most plots show a thin but uniform cover. Winter wheat, on the other hand, has deteriorated on all tillage methods to a marked degree, and weeds are beginning to appear where wheat stands are the thinnest. A good rain at this time to induce new growth and tillering of the winter wheat would greatly improve the situation.

Alfalfa and cultivated grasses continue to grow well and in the pasturing experiments the forage should soon be ready for grazing. The perennial pastures seeded a year ago seem to be growing particularly well and are much more advanced at present than are the older plantings. All plots of grass and alfalfa were harrowed during the week.

Maximum temperature 77; minimum 23; precipitation, none.

SHERIDAN:

The weather was somewhat warmer during the past week than during the previous week. A light rain on April 30 was just sufficient to moisten the surface to about the depth it had dried out where cultivated, again making good surface conditions for the emergence and growth of crops.

It appears now that brome has partially killed in one old seeding where it is pastured, but apparently is uninjured in other seedings. Meadow Fescue killed out completely in nearly all seedings, and slender wheatgrass is partially killed. No killing is apparent with crested wheatgrass. With last year's seedings a stand was obtained only with alfalfa seeded alone and with slender wheatgrass. No stand was obtained with any of these crops where seeded with a nurse crop and there is no stand of crested wheatgrass or brome in any of the new seedings, except in Rotation 41, where there appears to be a light stand of brome.

Rotation plots for corn and sorgo were plowed and harrowed during the week, just before the rain. Ground for a late seeded variety test of a few of the varieties of wheat, oats, and barley was plowed, prepared for seeding, and seeded. The May 1 date of seeding wheat, oats, barley, and flax, also was sown. Conifers received from Mandan were planted. The sheep were sheared yesterday, May 2.

Mr. J. M. Stephens stopped off and visited the station April 30, on his way to Ardmore and Akron.

Maximum temperature 70; minimum 20; precipitation, .35 inch.
Rain was much heavier in some nearby localities- mostly along a path between the station and the mountains.

DICKINSON:

Dry weather continued for another week. April precipitation of only .11 inch was the lowest recorded for the month during 39 years, with the exception of 1905.

Potatoes on Rotations 414 and 415 were planted on April 30. An increase block of a little over an acre was planted on May 2 to the best selection of Cobbler potatoes.

Dickinson, continued:

In the comparison of plowed and plowless fallow the first date of tillage was done on May 1 with the plow and duckfoot cultivator. Where fanweed has come in on this part of the field the early plants have been blooming since April 15.

Field pea varieties were seeded April 30.

Mr. C. N. Ainslie, of Sioux City, Iowa, Collaborator, Bureau of Entomology, visited the station Tuesday and Wednesday in making a study of the army cutworm in this area. This insect is numerous in many fields in the district as reported by farmers from all directions. In the station alfalfa as many as 20 per square foot were found. Most of the alfalfa now appears dry and brown. Poisoned bran has been only partially effective in control as the windy weather and dry soil seem to dry out the bran before much of it is eaten. Due to the advanced stage of the larvae Mr. Ainslie thinks that further damage will not be great. Grain which has emerged seems to have escaped with very little damage.

Mr. J. R. Parker, Senior Entomologist in Charge, and Mr. R. L. Shotwell, Assistant Entomologist, of the Bozeman, Montana, Laboratory, Bureau of Entomology, visited the station April 27 in connection with studies on grasshopper control. While here they installed an air-and-soil-thermograph. This was placed in the instrument shelter and it is planned to operate it throughout the year recording the temperature of the air and of the soil at a depth of two inches below the surface.

Maximum temperature 79; minimum 16; precipitation, none.

Precipitation January 1-May 1, 1931, 2.02 inches; deficiency, .80 inch.

MANDAN:

Agronomy

The past week has been favorable for all field work. Most of the week has been spent in preparing land for forage crops. Some work was done on the roads. The soil is dry on top, and rain is needed in order to start new seedings of alfalfa and grasses.

Mandan, continued:

Agronomy, continued.

Wheat, oats, and barley came up during the week, Growth has been slow because of the cool weather.

The delayed seeding of wheat was put in during the week. Oats and barley were seeded for feed. An early date of planting of corn for silage was also put in.

The total rainfall for April was .43 inch compared with the 55-year average of 1.61 inches. The total precipitation to April 30 was 3.54 inches compared with the 55-year average for this area of 3.58 inches.

Dr. Parker, of the Bureau of Entomology, from Bozeman, Montana, was here during the week, and installed a self-recording soil thermograph. Both air and soil temperatures are recorded.

Two recording anemometers were received from the Biophysical Laboratory during the week, one has been installed, and the other will be installed at the pasture.

Maximum temperature 80; minimum 18; precipitation, none.

Cooperative Grazing Experiment

Native vegetation has made a fair growth up to May 1. The prairie is now green.

The steers for the grazing experiment are expected to-day, May 2.

Arboriculture

Seventy thousand Northwest poplar cuttings have been planted in the shelter belt nursery during the week. Approximately thirty thousand Black Hills and White spruce seedlings have been lined out in the Conifer nursery.

A number of Black Hills and Colorado Blue spruce transplants have been planted in vacant places in the Main windbreak.

Green ash and chokecherry seed planted this spring has emerged during the week.

Mandan, continued:

Horticulture

Early-sown vegetables are now up with a good stand. Varieties include onions, carrots, parsnips, spinach, radishes, turnips, rooted parsley and peas. Head lettuce varieties, sown in the greenhouse April 1, were set out in the field April 30. The surface soil is now becoming very dry for a depth of 2 to 3 inches. Unless rain comes in the near future germination of late sown vegetables will be much retarded.

Transplanting of late cabbage, cauliflower, lettuce, and flower plants has been under way in the greenhouse during the week. Spading and renovating of shrubbery and tree groups on the grounds and hedges in the arboretum has been carried out. The lawns are greening up slowly but seem to be in good condition. Shrubs and trees are commencing to leaf out. So far the only shrub in bloom is the Sib. Almond, (Amygdolus nana).

Strawberries in the new cultural test were planted on April 28 and 29. A rain now would be of great help in obtaining a good stand.

Raspberries were planted on May 2. Spaces were left vacant for four varieties that had not yet arrived.

The first cultivation of the season has been in progress. A tractor is being used for most of this work.

All orchard blocks were sprayed on April 29 to May 1. A combination spray of arsenate of lead and lime sulphur was used.

Messrs. J. R. Parker and R. L. Shotwell, Bureau of Entomology, Bozeman, Montana and Mr. J. A. Munro, State Entomologist, Fargo, North Dakota, were visitors during the week.

BELLE FOURCHE:

The weather has been much warmer and more favorable to plant growth than during the previous week, but below freezing temperatures were recorded on four nights. The wind movement and evaporation have been relatively low. A rain of .34 inch precipitation on April 30 greatly improved conditions for the germination of seed, and benefited growing crops to some extent.

Belle Fourche, continued:

Winter wheat has shown marked improvement since the rain, and winter rye is starting to joint. Bromegrass has made a good growth, but sweet clover has made very little progress. The stands of small grain have continued to improve, and spring wheat, oats, and barley are up with at least 70 per-cent stands on all except the deep spring plowed, fall listed, and a few fall plowed plots. Flax and alfalfa were seeded May 1.

Mr. L. A. Hurst, of the Bureau of Chemistry and Soils, is visiting the station.

Maximum temperature 77; minimum 18; precipitation, .34 inch.

ARDMORE:

The weather during the week was generally cool and dry. A short, heavy shower of .46 inch fell on May 1.

The precipitation for the month of April, .19 inch, was the lowest on record at this station.

Vegetation made a poor growth generally and some fields of oats appeared to be making little or no recovery from the freezing temperature of the preceding week. Recovery should be aided by the shower on May 1.

Small grain seeded in the variety test plots, and flax in the main rotation, emerged during the week.

Three plots of sweet clover were reseeded and the delayed-seeding spring wheat plots were seeded during the week.

The spruce trees for the conifer block in experimental shelter belt were set out during the week.

Maximum temperature 73; minimum 18; precipitation, .46 inch.

ARCHER:

The weather has been cool and wet. Wednesday noon, April 29, all field work stopped and has not been taken up since. During this period the precipitation has been stretched out in small local showers totalling .66 inch.

Archer, continued:

Work at the station has consisted of seeding part of the sunflowers, hauling gravel, transplanting trees, hauling manure and making minor repairs on some of the buildings.

The varieties of spring cereals are looking well and winter wheat has been benefited by the moisture. The native grasses are beginning to make some growth.

Director W. L. Quayle visited the station on May 2.
Maximum temperature 56; minimum 22; precipitation, .66 inch.

AKRON:

The past week has been characterized by cloudy weather and local showers.

Rotation stubble-plots, intended for fallow and corn, not double-disked last week on account of rain were double disked early this week. Some of these stubble plots in winter wheat last year have a dense, actively growing cover of volunteer grain, which is proving troublesome to eliminate. Other field work consisted of the plowing and the packing of the ground for 1932 cereal variety experiments, and for the current year's rate and spacing corn project.

Rotation early spring-seeded small grain has emerged but not to full stands in every case. April rainfall was only about one-third normal, and deficient April rainfall nearly always results in raggedly emerged stands of the early spring-seeded small grains on the cultural experiments. These spring-seeded small grains have entirely recovered from the apparently severe freeze injury caused by the 19 degree temperature some ten days ago. This freeze injury looked alarming at that time, especially to the barley.

Plowed land shows plenty of moisture. Well established fall and spring-seeded small grains are making good growth progress. This, despite the low April rainfall, indicates a good carry-over of moisture from the past fall and winter.

An indication of the mildness of the past winter is illustrated by the finding of live plants of Swiss Chard on ground in garden last year.

Windbreak of Chinese Elm and of Cedar was planted along the south side of the building-site plot on the railroad right-of-way. Other work consisted of clean-up jobs about the station grounds.
Maximum temperature 65; minimum 24; precipitation, .70 inch.

NORTH PLATTE:

Favorable growing weather has prevailed during the week. No freezing temperatures occurred. Precipitation on April 29 amounted to .29 inch. The April total on the table was 1.34 inches, which is .72 inch below normal.

Pasture grasses are making rapid growth. Station lawns were mowed the first time on April 30. Winter grains are beginning to joint. Farmers in the vicinity are beginning to prepare land for corn planting.

COLBY:

This has been a showery week. The total precipitation was small, but coupled with the moisture already in the soil made the ground wet and sticky. The only reason that field work was possible was that it did not look as though soil conditions would be any drier soon. The prospects are very good for a rain to-night, May 2.

All spring sown grains are doing nicely. Winter wheat, which at the beginning of the week was showing white in spots from the effects of the freeze the week before, is now making very rapid growth. This is the first time that the winter wheat at this station has had a narrow escape from spring freezing. From all appearances a temperature of only a few degrees lower would have killed it. The furrow drilled wheat suffered more than that drilled in 8-inch rows, as only the stems exposed on the north side of the row were frozen noticeably. Only rank wheat, such as we have on fallow this year, seemed to be affected.

The new project was cut up into plots this week. It is now ready for the preliminary work on the plots to be fallowed as soon as the soil dries out enough to permit working and give the tractor footing. All of the preliminary tillage on the old project was done, except the plowing of the M.C.A. plots. The new project, being in stubble which caught all the snow during the blizzard, is much wetter than the old project.

Weather for April-Maximum temperature, 82 on the 7th, 11th, and 12th; minimum temperature, 21 on the 4th and 21st; precipitation, .92 inch (normal 2.19"), snow 6 inches; last killing frost on the 27th, 31 degrees.
Maximum temperature 67; minimum 31; precipitation, .22 inch.

GARDEN CITY:

Plowing and listing of fallows was completed this week. A co-operative, sweet clover, variety test was put out on some extra vacant ground. This is in cooperation with the Division of Forage Crops and Diseases.

The past week has been very difficult to do much field work. Some rain has fallen almost every day. A heavy frost occurred the earlier part of the week. Newspapers and the grain trade seemed quite worried about frost damage. We have been unable to discover any damage of permanent nature on the dry-land station. The tips of some of the wheat was browned but that seems to be the extent of the damage.

Much of the wheat on fallows is almost two feet high, a heavy rank growth and in places lodging is showing up. Weather has been cool and wheat has grown rapidly.

Maximum temperature 66; minimum 28; precipitation, .57 inch.

HAYS:

Rains during the past two weeks have kept the ground wet and muddy most of the time. The delay of tillage work on the project is getting serious to the extent that it has been impossible to kill the vegetation in the alleys and roadways, and the job ahead is continuously becoming more difficult. Fortunately all necessary plantings were timely made thus far, but tillage work since plantings were made has counted for little.

There is nothing new on crops to report. The continuous wet weather continues to boost growth of winter wheat, keeping it far ahead of the season, except perhaps on some of the extremely non-intensive methods of preparation. The growth ranges from four or five inches high on stubble-in to fifteen inches or more on fallow when it is not lodged. Spring small grains are doing nicely as are also the peas and newly sown bromegrass.

During the months of March and April 7.29 inches of precipitation occurred. Of that amount 7.09 inches fell between March 19 and April 30. The peak of the wet period thus far seems to have been reached when it rained five out of six days leading up to the Annual Boys' and Girls' Judging Contest April 24 and the Feeders' Annual Round-up the 25th. It having showered or drizzled continuously from the night of the 19th to the night of the 25th

Hays, continued:

on muddy roads caused by previous rains, made it almost impossible for visitors to attend. In spite of the unfavorable conditions, 300 boys and girls and other visitors were present the 24th, when 77 judging teams took part in the contest, and 200 visitors were present for the round-up on the following day. Needless to say those present were interested or they would not have been present under such disagreeable weather conditions.

Dr. N. V. Karnitkar, Soil Physicist, Department of Agriculture, Bombay, India, left for Manhattan Tuesday night, April 28, after having spent ten days on the Hays Experiment Station.

TUCUMCARI:

Very little field work has been possible the past week, for rain five of the seven days totaled 2.35 inches. Precipitation for April was 3.57 inches, or about one inch above the 26-year average. Precipitation for the first four months of 1931 totaled 6.04 inches, nearly three inches above the long-time average.

From April 13 to date there has been only one clear day.

Spring plowed plots in the MC. and rotations series were plowed early in the week, manure was hauled, and wheat and rye plots trimmed.

Conditions have been exceptionally favorable for newly planted trees and it now appears that a very good percentage survived transplanting. Even most of the evergreens seem to be alive, but it will be of course impossible to gain much information as to their survival until summer or fall.

Maximum temperature 72; minimum 33.

DALHART:

The past four days have brought a total of 1.45 inches of moisture as gentle showers; this does not include several showers which have fallen this afternoon. Field work was out of the question except for the first two days of the week. Some plowing and disking to finish up certain plots in a series were worked on Monday and Tuesday, April 27 and 28. The fields have been to wet for working, either plowing or disking, since then. It is

Dalhart, continued:

now planned to rush all spring plowing as soon as it is dry enough to perform this operation.

Some corral and lane fences were rebuilt during the week. The machinery was gone over and repaired and seed gotten ready for planting. It was too wet to seed the first date of planting cotton on the first of the month.

The week has been characterized by the absence of the sun. Field crops, trees and shrubs, and grass are about at the same apparent stage as a week ago. Very little growth took place. Trees that were at a certain stage in leafing out a week ago are at the same stage now. Lilacs were starting to open a week ago and there are no bunches fully open now. The grapes are swelling their buds fast and a few grape buds are starting to unfold.

Maximum temperature 63; minimum 31; precipitation, 1.45 inches.
Evaporation, .962 inch; wind velocity, 6.5 miles per hour.

BIG SPRING:

Damp, cloudy weather has prevailed during the greater part of the week. During two days of this time a slow rain fell which netted 1.95 inches. This was a general rain all over this section of the country, and it fell in such a manner that no run-off occurred. Soil moisture conditions are now in fine shape, and cotton planting will be started in full force throughout this section just as soon as the soil is dry enough.

When field work was possible, wheat in roadways and tree rows was plowed under; disking of fields was also started. Other work has consisted of making and painting field stakes, and threshing planting seed.

Maximum temperature 85; minimum 41; precipitation, 1.95 inches.

LAWTON:

Another week of cool, cloudy, showery weather permitted only two days' work in the field. Although precipitation was recorded four days during the week, the total amounted to only .97 inch. The monthly total for April was 2.14 inches, or .89 inch below normal, but well distributed.

Lawton, continued:

Small grains continue their rank, vigorous growth under the optimum climatic conditions that have prevailed throughout the month. Some of the early varieties of wheat are heading. Winter oats is heading very unevenly, except on the late October seedings where there is much more uniformity. Winter barley is fully headed and some coloring is developing on the beards. Leaf rust is developing quite extensively and rapidly on wheat. In the wheat variety test the plants average about three feet in height. On the rotations most of the plots will average a little less. Winter barley varies from 3 to 3½ feet.

Corn planted on the rotation plots finally emerged to a good stand April 28.

Reseeding of alfalfa on Rotation 142 and of sweet clover in Rotation 133 and in the commercial fertilizer project was successful.

The M. C. sorgo, broom corn plots and the L. M. kafir plots as well as M. C. F and G listed kafir plots were planted April 27. Two drilled plots of sorgo in Rotations 274 and 275 were planted on the same date. Ten varieties of grain sorghums were also planted on the 27th.

Cotton planted April 15 shows very few plants that have emerged to date.

Vegetation of all sorts, that was injured by freezing weather in March, was pretty fully recovered by May 1, with the possible exception of some of the Arborvitae which still appear doubtful.

WOODWARD:

From the 15th to the 30th of April, inclusive, there were only three days on which there was no precipitation to record. The greatest precipitation on any one date, however, was only .70 inch, and the total for the month only 2.23 inches. The moist, cool weather of April, following the nicely distributed 4.31 inches in March, has given the wheat a rapid, leafy, rank growth. The condition of wheat at this time is very fine, but too hot, dry weather may entirely reverse such condition before harvest.

Woodward, continued:

A very large acreage of alfalfa was planted in this section this spring and the two months of light rains have brought this up to a perfect stand.

Weeds have been very slow in germination, but the past few days they are coming on with a rush.

Because of the mild winter farmers had evidently anticipated an early spring and early planting of crops. When cool weather developed some of them went ahead with their plans anyway. There has been considerable kafir and milo planted in April, which is unusual. The plan that is largely followed here is to list in April and relist and plant in May or June. This year considerable planting was done at the first listing.

Corn planted the last of March and in early April has grown very little, although stands are usually good.

Work of the week has consisted of repairing the foreman's cottage, pouring concrete on the storage cellar, collecting red cedars from the canyons, planting the last of nursery stock, putting in seed bed frames, setting hub stakes for new plots and digging away in the mud trying to get wheat and rye out of the orchard and vineyard, which was planted there to keep soil from blowing.

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NOTE:

Field men are requested, when making shipments of trees or plants on Departmental bills of lading, to state on the bills of lading that they are dormant, and also whether such trees or plants are ornamental, fruit, or nursery stock. Also, in addition to weight of shipment, give number of containers in which made and description, as 1 box, 2 packages, 3 bales, or 4 bundles, as the case might be. This information is required by the General Accounting Office.

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WEEKLY STATION REPORTS

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U. S. DEPARTMENT OF AGRICULTURE

May 9, 1931.

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REPORTS FOR THE WEEK ENDING MAY 9, 1931.

HAVRE:

The past week was not very favorable for crops that are just emerging. A minimum of 28 degrees was recorded on the night of May 4. Wind velocity was quite high on the 7th. It was a steady, heavy wind from about ten o'clock in the morning until evening and with the dry condition of the surface there was quite a lot of soil blowing, the average velocity for the 7th was 13.9 miles per hour. On the station the soil did not drift badly but with a great part of the small grains just emerging there was quite a lot of damage. Many of the plants were broken off, some were cut off, and a great many are black. With suitable growing conditions from now on most of these plants should recover. Germination of small grains seems to be good except on spring plowing where it appears now to be spotted.

Worms have been causing a lot of damage this spring especially the past two weeks. These are apparently mostly army cutworms. There has been practically no damage to wheat but in some places barley and oats have been badly eaten. The barley seems to be preferable to other crops. Were the worms numerous enough so that they needed to eat other crops they would eat the wheat. At present they are living mostly on barley and Russian thistles on the plots to be fallowed and on alfalfa. Practically all the alfalfa shoots have been eaten. This worm should enter the pupa stage in the next week or two. The peculiar thing is that they have not eaten on the winter wheat which has made an unusually heavy growth.

Rain is needed in this section of the State. Winter rye and crested wheatgrass are both suffering from drought and should there be continued windy spells there would be severe damage. A light shower amounting to .15 inch fell on the evening of the 7th. This cleaned the air but was not enough to help much in germinating the crops that were seeded in dry soil. It will be just about enough to start the Russian thistles seeds that are near the surface.

Maximum temperature 83; minimum 28; precipitation, .15 inch.

JUDITH BASIN:

The weather during the past week has been dry and windy. The worst dust storm in several years occurred on May 7. There was soil drifting on practically all cultivated land. Pastures are making very slow growth and many stockmen are facing a serious feed shortage. Winter wheat is making some progress and early seeded spring grains are emerging. Conifers set out four weeks ago have deteriorated rapidly during the past week. Jack pine seem to be drying out faster than the other species. Pasturing of Crested wheatgrass was started during the week. Bromegrass and sweet clover have not as yet produced sufficient growth to pasture. Cutworms are still doing considerable damage, although the numbers seem to be fewer than a week ago. With the exception of corn, beans and flax, all seeding on the station has been completed.

Maximum temperature 78; minimum 30; precipitation, .01 inch.

SHERIDAN:

A good rain the evening of May 3 was followed by cold, cloudy weather with frequent showers, but with very little additional moisture, for the balance of the week. Very little growth was evident with any vegetation except crested wheatgrass. Temporary moisture conditions were improved considerably, however. The heaviest precipitation through this section still follows a path between here and the mountains, Sheridan receiving nearly twice the precipitation during the week that there was at the station, while sections a few miles northeast of the station have received only a small proportion of the amount that has fallen here.

Sheep were taken to the pastures during the week. The first cultivation of the shelter belt was completed. Flax in the rotations and varieties, and safflower, were sown. Dates of seeding spring grain, and varieties of proso are being sown to-day, May 9.

Maximum temperature 71; minimum 27; precipitation, 1.02 inches.

MANDAN:

Agronomy

The past week has been cold and disagreeable for field work for the most part. Temperatures have been down to freezing on part of the nights. Some small grain shows frost damage at present but will no doubt not have any lasting effects.

The forage crop rotations in the south field were seeded during the week, and also about three acres of alfalfa and some crested wheatgrass for seed production.

Crested wheatgrass and bromegrass continue to make a good growth but small grains appear to be slow.

Russian thistles are making a rapid growth and are thick on stubble plots that are to be fallowed. Peppergrass has made a rank growth in roadways and in some fields.

Flax and alfalfa were seeded in the rotations to-day, May 9.

Two light showers occurred during the week.
Maximum temperature 61; minimum 19; precipitation, .44 inch.

Cooperative Grazing Experiment

The cattle to be used in the experiment reached here on the afternoon of May 2. There are 75 Hereford steers and they are a very fine looking lot for this time of the year. They were purchased by the North Dakota Agricultural College from ranchers up near Kildeer, North Dakota. Part of the steers have been branded and the rest will be branded as soon as weather permits.

Native vegetation seems to be making a rather slow growth because of the cool weather. A good rain would no doubt help the grass a good deal at present.

Some fence repairing has been done at the pasture during the week.

Mandan, continued:

Arboriculture

The transplanting of Black Hills spruce, White spruce, Western Yellow pine, Scotch pine, Jack Pine, and Red cedar from the seed beds to the nursery field, has been completed during the week. All transplanted stock has been irrigated in an attempt to establish a favorable stand.

Surplus Chinese and American elm seedlings from shipping operations have been lined out in the nursery.

Several sandy areas in the pasture have been planted to Jack pine stock. Cultivation of one-year tree seedlings in the nursery has been started.

Horticulture

Early blooming varieties of fruits were badly damaged by severe frosts on the nights of May 4 and 5. Cold, cloudy weather has prevailed during most of the week and few bees or other insects have been working among the blossoms. These factors will probably result in a light set for many varieties.

Crossing work with plums and other fruits has been in progress in the field. Frost damage has interfered with the success of this work.

Other work done during the week included cultivation of the nursery and orchards, hauling brush and planting trees and small fruits.

A serious washing problem is developing in parts of the south field breeding blocks. It is planned to combat this by filling in brush, and planting bromegrass, pine trees, and willows. Some of the land will have to be abandoned for breeding block purposes.

Carrots, onions and other vegetable seeds planted in the Acre and Coulee gardens are coming up to a good stand. Cabbage plants have been set out.

On the grounds the groups have been spaded up and some new hedges planted. Among the early flowering bushes on the grounds the lilacs, more particularly, appear to have been damaged by frost.

Mr. C. N. Ainslie, Entomologist, Western Cut Worms, Sioux City, Iowa, visited at the station, parts of Friday and Saturday, May 8 and 9.

BELLE FOURCHE:

The greater part of the week has been abnormally cold, and temperatures five degrees or more below freezing were recorded on two nights. Moderate rains, beneficial to all crops, were received May 3 and May 7. The moisture penetrated through the dry surface soil on all plots, and conditions are now favorable to the complete germination of the various crops.

The weather has been too cold for much plant growth to take place. Hay crops have made very little advancement, but fall grain has made normal progress. Winter wheat has tillered extensively, particularly on corn and sorgo stubble. The stands of small spring grain have shown no further improvement, but most of the seed which has remained dormant in dry soil for nearly a month has started to germinate since the rains, and good stands should eventually be secured on all plots. Field peas are partially up, and flax and sweet clover appear to be germinating satisfactorily.

Maximum temperature 77; minimum 25; precipitation, .76 inch.

ARDMORE:

Rainfall during the first three days of the week followed by one day of hot, sultry weather. The latter part was characterized by lower temperatures and unusually high wind velocities. The maximum of velocity recorded for 24 hours was 20.1 miles per hour. Soil blowing caused considerable damage throughout the vicinity to spring grains, especially to those sown on fall-plowed land and land not previously cultivated.

With the exception of crested wheatgrass and bromegrass in the cultivated pastures all vegetative growth has been slow and is below normal for this late in the season.

Native vegetation has made a very slow growth and will furnish only fair pasture at the present time.

Plots to be seeded to corn were cultivated, the division fences in the 150-acre beef cattle pasture were completed, and the pine trees for the experimental shelter belt were set out during the week.

Visitor during the week: Mr. J. M. Stephens, Superintendent, Northern Great Plains Field Station, Mandan, North Dakota.

Maximum temperature 89; minimum 28; precipitation, .51 inch.

ARCHER:

During the week the weather has been cold and windy with flurries of snow and rain. These conditions delayed field work and at times the men were forced to inside work.

Work at the station consisted of hauling gravel, hauling manure, seeding sunflowers and corn in the Dairy field, seeding oats and peas on the rotation plots and seeding the date-of-seeding experiments. The dates of seeding were not made May 1 due to weather conditions. Tree planting is in progress.

Vegetation growth has been slow and theemergence of crops has been delayed.

Maximum temperature 76; minimum 24, precipitation, .15 inch.

AKRON:

The past week was dominated by weather extremes. Two showers early in the week were followed by heavy and persistent north to northwest winds during the last three days of the week. On Friday this wind reached such velocity as to cause general soil blowing over the adjoining countryside.

Fair progress was made with current work during the past week. Rotation stubble plots for corn were plowed and packed early in the week. Second date seeding of corn was made on May 5. Experimental pigs held on feed since Feeder's Day were loaded out Wednesday evening, May 6, for Thursday morning's Denver market. This shipment consisted of the 78 head used in the eleven experimental lots this past winter.

Rotation roadways have not been worked out as yet and the vigor on the winter wheat indicates this work should already have been accomplished. Otner work accomplished has been the plowing of the two sheep-rotation corn fields and the sheep-rotation fallow field, and the plowing of the 20 acres across the railroad devoted to permanent pasture grasses and legumes.

Akron, continued:

Forest and fruit trees and shrubbery are beginning to leaf out. Generally the fruit orchard is in bloom or breaking into bloom at this date.

Mr. J. M. Stephens visited the station on Wednesday and Thursday morning, May 6 and 7.

Maximum temperature 83; minimum 39; precipitation, .45 inch.

NORTH PLATTE:

Station field work for the week has been the seeding of alfalfa and preparation of land for corn planting. No planting has been done on the station and very little in the community. With favorable weather, planting will progress rapidly during the coming week.

Weather has been variable. Maximum and minimum temperature extremes were 81 and 31 degrees. There has been considerable cloudiness but less than one-half inch of precipitation. High winds have prevailed the past two days.

COLBY:

This has been a week of unsettled weather. There were numerous showers, even snow, hail, and sleet, with very little precipitation. Yesterday and to-day, May 8 and 9, the wind has been blowing a gale. The temperatures have been below normal most of the time except Thursday, May 7, when the maximum reached 87 degrees, the highest of the year so far. This was followed by a minimum of 41 degrees that night together with high winds and blustery weather.

Field work was possible almost all week, although rather disagreeable at times. The fall-listed plots in the methods of seed-bed preparation for early sumac sorgo were leveled and gone over with the spring-tooth-harrow the first of the week. The one-waying on the new methods of fallow was done on the 5th. The ground was very wet but a creditable job was done. The plot to be fallowed with a duck-foot cultivator was gone over with the duck-foot machine to-day. Gone over is all that can be said for it because in the stubble and straw it acted

Colby, continued:

more like a rake than a cultivator. Plot M.C.A., corn, was plowed to-day, and M.C. corn A, B, and E were packed with a disk. M.C. corn D was spring-tooth-harrowed. The other plots, which were fallowed last summer, were cultivated with a duck-foot cultivator. The soil was in ideal condition for tillage.

Maximum temperature 87; minimum 35; precipitation, .33 inch.

GARDEN CITY:

No field work was done the fore part of the week. Continued rain and wet weather prevented any field operations until the latter part of the week. Outside operations consisted of hoeing weeds, taking soil samples and cleaning up around the buildings. To-day, May 9, alleyways were treated with a five-tooth cultivator.

Friday and Saturday, May 8 and 9, were two days of high wind from the northwest. Temperatures were cool.

Wheat is making abnormally heavy growth. Soil moisture samples on the M.C. wheat plots showed a very pronounced shortage of moisture on the continuous cropped plots below the two-foot zone. Fallows seem to have a very good supply of available moisture in the upper three and four-foot layers.

Director L. E. Call, of Manhattan, was a station visitor on May 7.

Maximum temperature 84; minimum 39; precipitation, 1.32 inches.

HAYS:

This has been another week of partly cloudy weather and light showers with temperature ranging between 37 and 80 degrees. The total precipitation for the week was .53 inch. During the past 48 hours it has for the most part been cloudy with occasional sprinkle of rain, temperature running between 40 and 63 degrees, and a heavy, continuous, northernly wind, making field work very disagreeable.

Hays, continued:

Most of the tillage work has been done during these two days, Monday having been the only other day when the soil was dry enough to work. As a matter of fact none of the soil has been dry enough to work to good advantage.

Field work during the week has consisted largely of cultivating, disking, listing, and harrowing, most of which is an attempt to destroy vegetation which several other tillage operations have failed to kill because of rains following close after tillage. Soil moisture samples were collected from a number of wheat plots, and few oats and barley plots.

Winter wheat on fallow has reached a height of from 20 to 28 inches, growth very thick and of a dark green color. Much of it is badly lodged and tangled by the heavy wind. Wheat on cropped land by early methods of preparation is from 8 to 14 inches, generally looking good, but has thinned out more or less by failure of development of many of the culms. Wheat on land being prepared late or having little preparation is the poorest, being shorter, thinner, of poor color and appears to have suffered a heavier percentage loss by thinning. The continuously stubbled-in wheat is extremely poor, very thin and from 4 to 12 inches high, the latter being around the margin of the plot. There are no signs of heads on any of the wheat plots at this time.

The thinning or reduction in stand referred to is due to more than one cause but the stem maggot is noticeably more active this year than usual and is responsible for a considerable part of the present loss in number of wheat stalks failing to develop. There appears to be little such loss on the fallow plots where the loss would be more acceptable.

Winter rye is from 30 to 36 inches high, is pretty well headed and now ready to be turned under for green manure. The growth is only moderately thick, perhaps a little less than average. It is not heavy like one would expect in a wet spring.

Oats, barley and spring wheat are about 6 inches high and look promising except for the weeds which are very thick. Canada field peas are about 6 inches high. Alfalfa is about 8 inches high on the plots and 12 inches or more high on the bottom land.

Hays, continued:

Kanota oats seeded in the fall on roadways to prevent blowing survived the winter with at least 80 per cent stand. These nave been left on one roadway for observation. They are looking fine, are thick and even, about 15 to 18 inches high and about 30 per cent headed. A yield determination will be made when mature.

Dr. Levine, a lady economist accompanied by a student, both from Russia, visited the station one day this week. Dr. L. A. Jones, Division of Soil Erosion, is visiting the station to-day, May 9.

TUCUMCARI:

The past week was generally cool and cloudy, but only .29 inch precipitation was received. The maximum temperature of the year, 85, was recorded May 7, while on May 9 the minimum dropped to 37.

No planting has been performed, but considerable land is prepared, to be planted as soon as soil seems warm enough. The forage sorghum block has been plowed and spring-tooth-harrowed, while all M.C. and rotation fallows were plowed.

New sod land which will be cropped this year was worked to further the tearing up of the sod. Weeds are growing fast in all tree rows and have required an unusual amount of cultural work. Fields are being worked whenever the crop of young weeds demand it.

Wheat on the plains is in excellent condition and it is expected the crop will exceed that of any previous year. Due to the very heavy wheat acreage it is likely the row-crop acreage will be materially lower than in some recent years.

Maximum temperature 85; minimum 37.
Wind velocity, 5.4 miles per hour; evaporation, 1.299 inches.

DALHART:

The weather has remained cool during the past week with the exception of Thursday, May 7. The temperatures are unseasonably low. The first half of April was warmer than the last half and the cool weather continues. Trees are leafing out and the hardier shrubs, grass, and weeds are starting to grow at last.

Field work has consisted mainly of plowing. Plowing was started on Tuesday, May 5, and continued throughout the week. The small fields for the sorghum varieties were plowed and a few of the rotation plots were plowed. Actually the plowing has just gotten well under way. The ground is moist and is turning over nicely.

The only field planting accomplished to date has been some cotton varieties which were seeded on the 5th. The top soil was too moist for earlier seeding. As the weather has been so cool and the date rather early yet, no corn has been planted.

It was necessary to go over the grape vines in the vineyard the first of the week, Monday, for the grape cane borer. An excellent control measure which was used both last year and this year was an application of shellac to the point of entrance. This was accidently discovered last year as we were using a quick drying shellac to stop the cut vines from bleeding. So far we have had success in every instance by using shellac. The grapes are now just starting leaf emergence.

On Thursday and Friday, May 7 and 8, the wind velocities were high with considerable quantities of sand in the air.
Maximum temperature 82; minimum 37; precipitation, .33 inch.
Wind velocity, 8.3 miles per hour; evaporation, 1.387 inches.

BIG SPRING:

Weather conditions the past week have been very favorable for field work, but the soil has been too cold for good seed germination. Many farmers are planting, but it is very probable that they will obtain poor stands unless the soil warms up in the near future. Heavy rains and some hail have been reported from various parts of the county, but the station has received only .03 inch of moisture during the week.

Big Spring, continued:

The fallow plots were plowed during the week, and two of them were manured previous to plowing. The M. C. A. plots were also plowed during this time. Other field work has consisted of disking increase fields. Considerable time has been spent in preparation of the Feeder's Day Meeting, which was held at the station May 8. This was the conclusion of this year's cattle feeding experiment which has been conducted here for the past 140 days. In addition to the Station program the 4-H Club boys and girls displayed the calves which they had fed during the past winter. These calves were judged and auctioned off as part of their program. An interesting part of the Station program was a meat cutting demonstration by a Department meat specialist. About four hundred ranchers and farmers attended the meeting and all seemed very much interested in the work.

Maximum temperature 80; minimum 40; precipitation, .03 inch.

LAWTON:

Cold, threatening weather continued throughout the week. The subnormal temperatures, which have prevailed for several weeks, keep the soil too cold for satisfactory germination of row crops. The seed of seven varieties of cotton planted April 15 rotted in an excellent seed bed. The same varieties planted May 4 are dormant at the present date. Planting of cotton on the rotation plots and in the variety test and spacing tests is being delayed until warmer weather prevails.

Ten varieties of grain sorghums planted April 27 show fairly good emergence, except Red Amber x Feterita and Reed kafir. Other plantings of these two varieties indicate that the seed is of low vitality.

Broom-corn and sorgo on the surface-planted rotation plots show fairly good emergence. Satisfactory stands of kafir, sorgo, and broom-corn on the listed plots is yet very questionable.

Surface-planted kafir and feterita rotation plots were planted May 8 and 9. About 6½ acres of cowpeas were planted May 7 on land that is to be used for small grain projects next fall. The second planting, consisting of 157 rows in the chinchbug sorghum-resistance project, was made May 7 and 8.

Lawton, continued:

Wheat is emerging from the boot quite rapidly on practically all rotation plots. Another week of favorable weather will likely see the crop pretty fully headed. In the variety test first heads on practically all varieties were recorded during the week, and Prelude x Kanred was recorded as fully headed May 7.

Considerable progress in heading was observed in the winter oats varieties, especially in the later seeding dates where injury from the March freeze was less. Spring oats in the rotation plots in Field A. is fully headed, and the first heads in the January 21 seeding in the rate and date test are quite prominent.

Winter rye in Rotation 390 was plowed under for green manure April 27 when the crop had attained an average height of 35 inches and was fully headed for some time.

On May 8 a high northwest wind that filled the air with sand and dust held an hourly velocity of 22 miles during the daylight hours. No soil blowing was experienced on the station.

Minimum temperatures during the week ranged from 42 to 56 and the maximum temperatures ranged from 58 to 79. The mean for the week was 59.5 or 8.5 degrees below normal. Precipitation in the form of three showers amounted to .27 inch.

WOODWARD:

The past week has been either showery or excessively windy, and, therefore, disagreeable and unfavorable to field work.

Wheat seems to be making a very satisfactory growth, but corn has made little headway and early planted sorghums will have to be replanted. Newly planted alfalfa has made steady if somewhat slow growth. The first cutting of older alfalfa will be two weeks later than usual, due to the severe freezing the last of March. Trees have come pretty fully into leaf the past week.

Woodward, continued:

Work of the week has consisted in trimming up wheat plots, plowing and disking roads and alleys; grafting of walnuts and pecans; planting seeds of trees and shrubs; and carpentry work.

HUNTLEY:

With the exception of a few sprinkles of rain the past week has continued dry. One or two days have been very windy and seedling grains suffered slight injury from whipping and blowing soil.

Drought and cut-worms have further reduced the stands of winter wheat to the extent that it seemed advisable to duckfoot the poorer plots and reseed them to spring wheat. The plots most injured were those in the M. C. series and the stubbling experiments.

Stands of spring grain have remained about the same; thin but even over the plots. Much of the seed is still unsprouted but some of it has germinated and died before emerging.

Field work has consisted of fencing hog pastures and preparing corn and bean land for planting.

Maximum temperature 79; minimum 27; precipitation, .05 inch.

DICKINSON:

About 200 each of Black Hills and Colorado Blue spruce received from the Northern Great Plains Field Station were planted May 7 and 8. Most of these were used as replants where the same species planted in 1930 had died. On one end of the planting where a jackpine windbreak gave protection on the west the loss in 1930 was very light but in the balance of the rows the loss was about 90 per cent.

Dickinson, continued:

Wheat, oats and barley, planted May 11-15 on the rotations, have emerged rather uniformly on the fallow, green manure, and corn ground, but most of the other plots have emerged only in spots or not at all.

A rain of .63 inch on May 8 will be of great benefit to all crops.

Mr. C. N. Ainslie, Bureau of Entomology, visited the station on May 6 and 7.

Maximum temperature 81; minimum 17; precipitation, .63 inch.

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NOTE:

On the evening of May 15, 1931, Dr. Leighty left for the field and will make his first stop at the Southern Great Plains Field Station, Woodward, Oklahoma.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

May 16, 1931.

Not for publication without
prior consent of this division.

REPORTS FOR THE WEEK ENDING MAY 16, 1931.

PENDLETON:

The past week has been very warm, the maximum on the station was 89, while in Pendleton the maximum reached was 102.

The wheat in the Pilot Rock and Holdman sections of Umatilla County is burning severely on account of lack of rain. If these sections do not receive a good rain within the next two weeks the yields will be very light. In the region in which the station is located the need for rain is not urgent, a good crop will be obtained without further rain.

Corn sown on May 3 is emerging with good stands. China pheasants are eating some of the young tender corn sprouts.

Federation wheat in the winter wheat varietal trial and rotations is heading. Federation wheat sown in a rate and date trial on September 1 and 15 was severely injured by frost on April 18, 19 and 20. A temperature of 21 was recorded on these dates. The wheat was in the boot stage, none of the wheat sown two weeks later was injured by frost.

HAVRE:

The first three days of the week were cool, with 28 degrees recorded the morning of May 10. The last four days were warm, with one or two days rather windy, and a maximum temperature of 95 degrees. There was a heavy wind blowing for a while on the afternoon of the 14th. There has been no rain aside from traces. Native grasses and crops, including winter rye, winter wheat on both fallow and after grains, and the domestic grasses that are advanced, are suffering.

Some of the spring grains were slightly damaged by wind. Barley and spring wheat show good stands and are making some growth. Oats are in good shape on fallow but on other methods, especially spring plowing, stands are very spotted. Some plants are dying. Worm damage seems to be decreasing. Alfalfa is growing out.

Corn was planted on the rotations during the week. Fallow is being plowed.

Maximum temperature 95; minimum 28; precipitation, trace.

JUDITH BASIN:

The weather during the past week has been unseasonably warm and together with the extreme drought has been very detrimental to plant growth. Small grains on the rotations emerged to good stands but are making very slow growth. Cutworms are doing some damage to oats. Poisoned-bran mash has been used in an effort to control them but is not entirely effective. Growth of alfalfa, crested wheatgrass and other perennial forages is at a standstill while native grass is growing rapidly.

The old shelter-belt plantings made during 1916 were thinned during the week. Killing among box-elder and green ash has been severe during the past two years.

Maximum temperature 88; minimum 26; precipitation, .08 inch.

HUNTLEY:

Hot and dry weather has continued throughout the week and all crops are showing the need of moisture. Winter wheat that has survived to date is beginning to fire, whereas spring grains, alfalfa and cultivated grasses present a wilted appearance during the warmest part of the day.

Planting corn in the rotations, pasture and miscellaneous experiments was completed on May 15. Most of the seed was planted in dry ground and good stands are out of the question until a good rain is received.

Hogs for the pasturing experiments were weighed and placed on the plots. The rye pasture is thin but the material appears to be quite palatable. Among the perennial pastures the alfalfa planted in rows is far superior than that sown broadcast in the amount of forage produced. Bromegrass in the pastures has made a fair growth but is beginning to fire and become tough.

Maximum temperature 93; minimum 21; precipitation, .01 inch.

SHERIDAN:

Cool weather continued over the first half of the week, but the last three days were unseasonably warm. All crops made a fair growth except winter wheat in the continuously cropped plots of the M.C. series. There appeared to be a fair stand on those plots early in the spring, but the crop has deteriorated considerably there since. Winter rye in the sheep pasture is beginning to head.

Sheridan, continued:

Corn was planted in the rotations on May 15. A date of planting corn and some bulk planting for feed also was planted. The varieties are being planted to-day, May 16, and ground for other seedings has been prepared.

Moisture conditions near the surface still continue fair. Any extended period of warm weather with wind such as prevails at present will soon exhaust the available moisture, however.

Maximum temperature 90; minimum 25; precipitation, trace.

MANDAN:

Agronomy

The past week has been favorable for all field work. It remains dry and rain is badly needed. Crested wheatgrass is drying up on some plots.

Forage crop rotations were seeded during the week and plowing has been completed for corn.

Maximum temperature 86; minimum 32; precipitation, .06 inch.

Cooperative Grazing Experiment

The initial weights of the steers have been obtained and the cattle are ready to start on the pastures. The cattle average about 770 pounds per head.

Professor E. J. Thompson, Head of the Animal Husbandry Department of the North Dakota Agricultural College, was here on May 15 and graded the steers.

Some fencing has been done at the pasture. Vegetation continues to make a slow growth. Bromegrass is in good condition for grazing and is much ahead of the native vegetation.

Arboriculture

All surplus Northwest poplar rooted cuttings have been planted in the cutting block in Field L. All surplus caragana, elm, ash, and Russian olive seedlings have been lined out in the nursery.

Mandan, continued:

Arboriculture, continued.

Cultivation in the species-testing blocks and shelter-belt combinations has commenced. Several loads of sand have been hauled in preparation for the making of conifer seed beds.

Dead wood has been removed from all testing blocks and from the main wind break. The removal of dead branches due to natural pruning from the lower part of the trunks has given many of the blocks the appearance of a moderate to severe pruning.

Horticulture

Continued dry weather made it necessary to irrigate the nursery earlier than usual. It was irrigated on May 13 and 14. The ground was very dry and soaked up a considerable amount of water.

Hand crossing work was continued throughout the week in the field. Plums, Chinese cherries, Juneberries, gooseberries, and apples and crabs were used in this breeding work. Most fruits have passed the full bloom stage now.

Willow poles were cut into convenient lengths and planted across gulleys in the breeding blocks in an effort to prevent further washing. They will probably fail to grow unless a good rain comes soon.

Planting of vegetables, weeding and renovating of tree and shrubbery groups and perennial flower borders, pruning and replanting of hedges in the hedge test, was carried on during the week.

The second planting in the acre garden was completed May 7, and is now breaking through the ground. Vegetables planted included wrinkled peas, beans, sweet corn, beets, cucurbits, melons and potatoes.

Early cabbage and cauliflower, some under mulch paper, were also set out.

Mandan, continued:

Horticulture, continued.

Sixteen selections of water melons and 65 selections of muskmelons were planted May 14-15. A variety test of ten of the earliest and latest introductions of muskmelons was also planted. The soil surface is now very dry to a depth of three to four inches and unless rain comes soon germination and growth of these plantings will be much retarded.

The recent warm weather period has brought out leaves and blossoms on the trees and shrubbery on the station. Rubes odoratum, Spirea arguta, Crataegus crus galli, are in bloom about the grounds and Cydonia japonica, Sambucus ran mosa, ornamental crabs in variety, and French hybrid lilacs in the Arboretum. The French hybrid lilacs withstood or escaped the hard freeze on May 8 and 9, which killed the buds on the common lilacs. The lilac in various species is The shrub for the Northern Great Plains. Only own root stock should be used.

Asparagus which was checked severely by cold weather is again producing freely.

BELLE FOURCHE:

The fore part of the week was quite cool, but mid-summer temperatures and a strong, warm wind have prevailed during the last few days. No measurable amount of precipitation was received, and rapid drying of the soil has taken place.

The warm winds and hot, dry weather have been very injurious to all except newly seeded crops. Alfalfa, bromegrass, winter wheat, and winter rye have burned badly. Alfalfa has been damaged beyond recovery, and many of the winter wheat leaves have turned brown. Winter rye has fired more extensively than any of the other crops, and is starting to head at a heighth of 8 to 12 inches, but the heads are so small that the crop of grain will be practically a failure. Spring grain has made a fair growth, and the stands have greatly improved during the week. Flax, bromegrass, and sweet clover are coming up.

All corn plots were prepared for seeding, and planting of corn was completed.

Maximum temperature 91; minimum 33; precipitation, trace.

ARDMORE:

The weather continued cold during the first part of the week, but a sudden change to unseasonably warm weather took place the last few days. On May 14 and 15 maximum temperatures of 91 degrees were recorded.

Field work during the week consisted of preparing plots and fields for corn and in planting corn on the rotation plots, the variety test plots, and the large fields. All corn planting was completed during the week.

Small grain, with the exception of the plots injured by soil blowing, made seasonable progress. There are spots in many of the large fields where grain is almost entirely killed. This condition is general on corn ground throughout this section.

Alfalfa and native grass began to show signs of moisture shortage the latter part of the week. There is still a good supply of available moisture present in land that was in small grain or corn last year.

Ten litters of pigs were weaned and placed on the limited ration pasture during the week.

The apple trees in the orchard are now in bloom. All blossom buds on the plum trees were killed by the severe freeze in April.

Hat Creek has again almost ceased flowing and the possibility of a water shortage is again appearing.

Over this section as a whole, lack of water for livestock is becoming serious, as many dams are going dry.
Maximum temperature 91; minimum 30; precipitation, none.

ARCHER:

During the week the weather has been dry. It was cool during the first three days and warm the remainder of the week.

Archer, continued:

These conditions have been favorable for field work, which permitted seeding of corn on the rotation plots, the finishing of the seeding of corn in the dairy field and the seeding of the varieties of corn. Weed growth has started with vigor. This made it necessary to re-harrow all corn plots before seeding and the oats seeded on fall plowed plots were also harrowed. A shipment of western yellow pine and caragana and a number of fruit trees were planted. The hauling of gravel continues.

Precipitation is needed badly. Winter wheat is beginning to joint and shows the need of moisture. The prairie grasses are at a standstill due to the lack of rain. The corn land has sufficient moisture for the present.

Due to the lack of growth of the prairie grasses the dairy herd has not been turned out to pasture.

Maximum temperature 82; minimum 27; precipitation, none.

AKRON:

The past week has been very favorable for field work and good progress has been made. The rotation plots were trimmed and the roadways worked out with the duck foot cultivator. Practically all the ground to be seeded later was duck-foot cultivated, this being necessary because of the well established stands of Russian thistles. Twenty acres of land across the railway have been plowed and made ready for seeding biennial and perennial pasture grasses and legumes. Rate and spacing corn and the rotation corn and kafir plots were seeded this week-end. Without exception the seed was deposited in moist soil and there is excellent prospects for prompt emergence. First date of seeding beans was made promptly on May 15. First date of seeding millets on the Cereal project was also made on the 15th.

This region has been operating under a shortage of precipitation since the season actively opened, April 1. April passed with only one-third the normal rainfall and thus far May has produced only .55 of an inch, scattered in several showers. The carry-over of soil moisture from fall and winter precipitation has prevented drought indications until the present time. Winter wheat on fallow stands eight to ten inches tall and is a vivid

Akron, continued:

green over the plots. On green manure preparations the winter wheat is almost as vigorous but is beginning to show drought injury by this week-end. Winter wheat on small grain stubble and on corn ground has been very slow in developing and does not, to date, cover the ground, thus allowing thistles to become established. Spring-seeded small grains have not as yet covered the ground and here also the Russian thistle has become well established, promising low yields no matter what the future rainfall may be, also difficulties in harvesting and threshing.

Trees and shrubs are leafing out slowly and unevenly. Cherries in the orchard are blooming sparsely and unevenly.

A good surface-soil-soaking-rain is needed by all types of vegetation.

Maximum temperature 89; minimum 29; precipitation, none.

NORTH PLATTE:

Weather has continued dry with variable temperatures and wind movement. Strong north winds prevailed from the 8th to the 11th inclusive. During the first three days, the total was 1040 miles. Maximum temperatures were 59 and 55 on the 10th and 11th and the minimum was 32 on the 12th. This was followed by a hot wave with a maximum of 95 yesterday and a minimum of 59 last night, May 15.

Corn was planted on the D. L. A. plots on the 12th and 13th, and planting on the larger fields has been in progress all week. Winter grains are showing some signs of moisture shortage. The retarding effect will be beneficial if moisture comes later, as the early growth had been too rank. First heads are appearing in rye. Potatoes planted April 14 are now emerging.

Roadways were worked down during the week and the project generally presents a very good appearance.

COLBY:

This has been an almost ideal week for field work. No precipitation has fallen, and it has been the warmest week of the year to date. After blowing hard for most of five days the wind quieted down Monday night and has blown but little since. All grains have made rapid growth, especially winter

Colby, continued:

wheat. Rye is almost headed and some of the winter wheat looks as though it might begin heading in a few days.

The corn plots were planted the first of the week. Yesterday and to-day the fallow plots were one-wayed, listed, or plowed according to the outlines. The plowing is not finished, however. There is an abundance of moisture in the ground. Seldom have the soil conditions been more ideal for plowing.

President Farrell, of the Kansas State College of Agriculture, visited the station Wednesday, May 13.

Maximum temperature 96; minimum 29; precipitation, none.

There was a frost on the morning of May 12, but little effect could be noticed on vegetation.

GARDEN CITY:

General clean-up work about the project, buildings and cottage, occupied most of the time the past week.

Wheat is making extremely heavy growth and is beginning to show signs of using up the reserve of sub-soil moisture. The wheat on the new dry land project, devoted to tillage studies with winter wheat, is seriously in need of rain. This land was in buffalo sod and was broken last summer for fallow. The wheat is not over 18 inches tall and appears to be drying up while the wheat on the old project is growing nicely and shows very little effect of lack of moisture.

On May 8 a hard wind from the northwest started, at times blowing nearly thirty miles per hour. This kept up for four days, day and night. It has had its effect on drying out the ground and some wheat fields are showing pronounced indications of lack of moisture.

Maximum temperature 93; minimum 32; precipitation, none.

HAYS:

It has been a good week for tillage and weed destruction. Rye was turned under for green manure, and the fallow plots of the C. C. series and in Rotations 5,8, 57, 568, and 580 and also M. F. plot L were plowed. All borders were blank listed. Cultivation of roads and alleys was continued for the destruction of wheat and weeds. Soil samples were collected for moisture and nitrate determinations.

Oats, barley and spring wheat are looking good. Winter wheat, where growth is heavy, on continuously cropped plots is beginning to burn. On fallow the wheat is about 30 inches high and in good condition,- no sign of burning to date. On the continuously-cropped plots the wheat is beginning to head. On fallow the heads are just forming in the boot.

Maximum temperature 87; minimum 32; precipitation, none.

TUCUMCARI:

The first warm weather of the spring occurred this week, after a month of cool, cloudy days. The first planting of the corn variety plots was made, while other plantings included cotton date and nursery rows, peanut variety test, and M. C. kafir, sorgo, and corn plots. No rotation nor cooperative grain or forage sorghum planting has been performed.

Cultural work with the spring-tooth harrow, field cultivator, and go-devil covered nearly all crop land. The present warm weather should make general planting possible very soon, for the soil is warming rapidly.

Grapes are heavily loaded with buds, considerable fruit remains on apple and pear trees in spite of the very cold weather late in March, and a very few peaches and cherries are developing. The orchard was sprayed this week, while nearly all tree rows were spring-tooth harrowed.

Wheat on the plains promises the highest yield on record, while station plots of rye and wheat are unusually good. Rye has been in head ten days, while wheat is heading. Ranges are far better than usual.

Mr. C. P. Ladas, Greece, who has been studying agriculture for several years at Amherst, Columbia, and Berkeley, has been visiting the station this week. From here he plans to go to Dalhart, Woodward, Hays, and North Platte. He is studying under the Carnegie Foundation for Inter-

Tucumcari, continued:

national Peace and after spending a few more months in this country plans to return to Greece where he will establish and head the first dry land experiment station.

Maximum temperature 91; minimum 36; precipitation, none.
Wind velocity, 4.6 miles per hour; evaporation, 1.777 inches.

DALHART:

The weather conditions have remained favorable for plant growth and for field work during the week. Yesterday, May 15, was the hottest day of the year with a maximum temperature of 92.

Winter wheat is starting to head and has a good color. Winter rye is just about completely headed. Oats and barley are still small and are thin on the ground.

Plowing was continued throughout the week. Planting was done on two days. The cotton varieties and dates were planted on Monday, May 11, and the first date for the grain and forage sorghums was planted on the 15th.

Maximum temperature 92; minimum 35; precipitation, .10 inch.

LAWTON:

Rapidly rising temperatures since May 14 have been accompanied by a strong wind velocity that dried the surface soil very rapidly. Rapid progress in the development of small grains was observed throughout the week. Heads on the early seedings of winter barley are turning quite brown, and a few yellow heads are visible in the winter oats varieties. Wheat is fully headed and ranges from 29 to 47 inches in height, depending upon the method of production, on the rotation plots.

Grain sorghums planted in the chinch bug resistance project May 7 and 8 emerged in most instances to fair to good stands May 16 and 17. Seven varieties of cotton planted May 4 were showing good stands May 16. This is the first stand of cotton that has been secured so far this spring. Cold weather has delayed cotton planting longer than usual this year, and farmers throughout the farm territory have been busily engaged at such work the past week.

Lawton, continued:

An automobile trip was made to Harmon County about 100 miles west of Lawton, on the 14th, to observe the growth and production of Austrian winter peas. Local information about this crop, which is being introduced into western Oklahoma is very limited, and there is considerable inquiry about it. About 11,000 pounds of seed were planted in Harmon County last fall, the fields ranging from small patches to 20 acres. The present behavior of the crop rather indicates that it is receiving more attention than it merits. Although it is grown primarily as a green manure crop nobody seems to be using it that way. Nearly everyone is looking forward to a seed yield and some hay. Profitable yields of seed and satisfactory yields of hay do not look encouraging.

Mr. L. W. Kephart, Senior Agronomist, Division of Forage Crops, and Mr. L. W. Osborn, Extension Agronomist, Stillwater, Oklahoma, were station visitors May 13.

Maximum temperature 92; minimum 40.

WOODWARD:

The weather the past week has been mild and pleasant, except the 15th, when the temperature rose to 98.

Wheat is still holding its own and looking very fine. Corn is still only about four inches high, though some of it came up a month ago. The first cutting of alfalfa has not yet been made, due to setback it received the last of March. Trees are still coming into leaf in a lingering manner, because of same freeze that hurt the alfalfa. Many arborvitaes that until recently had some show of life, have died.

Work of the week has consisted of cultivating practically all the bare land on the place, rushing in tree seed as rapidly as possible, and putting in trellises for grapes.

Maximum temperature 98; minimum 39; precipitation, none.

Evaporation, 1.911 inches.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

May 23. 1931.

Not for publication without
prior consent of this division.

REPORTS FOR THE WEEK ENDING MAY 23, 1931.

HAVRE:

The past week has not been a favorable one. Wind velocity was high on May 17 and is again high on the morning of the 23rd. Three nights during the week temperatures were freezing or below. Total precipitation was .24 inch, recorded on three days. A part of this fell as snow.

Winter wheat suffered noticeably except on well prepared summer fallow. This crop on July fallow is burned almost beyond recovery. It is also in bad shape on MCA, B, E, and F. Corn ground is still in fair shape and some of the fallow is in very good condition, but if the present weather continues, it will not last long.

Spring grains are making only slow progress on the better methods. Oats especially show very thin stands on the poorer methods. Stands of barley and wheat are very good, with a few exceptions. Winter rye is heading and is not over a foot to fifteen inches tall.

Domestic grasses are burned so badly that they cannot make much yield even with heavy rain. Cutworm damage is getting less although there are still worms that have not pupated.

Plowing was completed for fallow and roadways are being lined out.

Showers have been more frequent and heavier in the mountains. This has improved ranges. On the prairie, native grass is at a stand still and has made very little growth this spring.

Precipitation since January 1 has been just about 50 per cent of the normal.

Maximum temperature 83; minimum 29; precipitation, .24 inch.

JUDITH BASIN:

High winds and heavy freezes during the past week have been very detrimental to crop growth. Beginning with the afternoon of May 16 and lasting until the forenoon of the 18th, the wind blew a gale from the northwest. The air was filled with dust and it was difficult to see more than a few rods because of it. With the exception of that which was stubbled in, all spring

Judith Basin, continued:

wheat and other spring-seeded small grains were killed to the surface of the ground and some of it was blown out entirely. Following the high winds a light fall of snow occurred on May 18, which together with a light shower on the evening of the 16th netted .20 inch of precipitation.

Temperatures dropped to a very low point for this time of the year after the snow-storm. During the four days, May 18 to 21, the minimum temperature dropped to 25, 27, 26 and 28 degrees, respectively. These freezes did considerable damage to all vegetation.

At the present time it is too early to determine how much grain will have to be reseeded. On the station it seems as if only a part of the oat variety test in the cereal project, which was seeded on a particularly exposed piece of ground, will have to be reseeded.

Maximum temperature 78; minimum 25; precipitation, .20 inch.

HUNTLEY:

Freezing weather, together with a small amount of moisture, some of which came in the form of a light snow early in the week, retarded the drying up of all crops to some extent. The only crops to show any improvement over a week ago are field peas and winter rye. The latter is beginning to head in the variety tests where it is grown on fallow. Rye in the pasture experiments is commencing to joint but the plants are getting very dry and unpalatable.

Cutworms continue to be active and a second scattering of poisoned-bran mash was applied to some of the spring grain plots. The numerous small worms found would indicate that the cutworm menace will extend to a somewhat later date than usual this season. Farmers have reported from 50 to 300 acres of winter wheat destroyed by cutworms in some fields this spring.

A drop in temperature to 21 degrees on May 19 and 23 degrees on the 20th did slight injury to alfalfa, barley and Russian thistle in the fields and, in the station gardens, beans, sweet corn and potatoes were frozen down to the ground. The tender foliage of some of the shrubbery and vines around the station grounds was also more or less injured.

Maximum temperature 88; minimum 21; precipitation, .06 inch.

SHERIDAN:

A light shower on May 17 was followed by cold weather over most of the week. There were two heavy freezes in succession on the nights of the 19th and 20th, temperatures remaining below freezing for about 10 hours each night. There was a light frost the morning of the 22nd, while to-day, May 23, is quite warm.

All small grain and alfalfa were frozen back considerably, barley probably being injured more than any of the other grains. New seedings of alfalfa appear to be uninjured, and flax does not appear to be damaged any. Leaves of the green ash only, of the trees which had leaved out, were frozen.

The remainder of the corn, except later dates of planting, and the potatoes were planted, and millet was sown. Roadways are being lined to-day. The soil is getting very dry on the surface, and rain is badly needed.

Maximum temperature 86; minimum 22; precipitation, .24 inch.

DICKINSON:

Due to the combined effects of dry weather, high winds, frosts and cutworms, the crop outlook is considered the poorest of any year of the station.

On May 18 high winds damaged crops severely. On the morning of the 21st., a minimum of 18 degrees was recorded. Probably due to the fact that crops had been previously injured by wind and low temperature, that the damage to all crops was severe. Oats, barley and flax on the rotations were almost completely killed while wheat survived with somewhat better stands. All fruit and flowering shrubs were badly injured so that the fruit crop will likely be a total failure.

Oats, barley and flax will be reseeded on the rotations next week but the soil is so dry that the seed will not germinate until rain comes.

Corn was planted on the rotations May 14 and the varieties and increase for silage were planted May 20.

Potatoes for the seed-treatment experiment were received from Fargo and planted on May 19. Hill selections of three varieties were planted.

Maximum temperature 73; minimum 18; precipitation, .02 inch.

MANDAN:

Agronomy

The past week has been mostly unfavorable for field work and the growth of crops. Low temperatures, high winds and dry weather prevailed during most of the week.

The temperature dropped to 23 degrees on the night of May 19. The maximum on the 20th was 43 degrees. The frost damaged flax that was just coming up. Barley and other small grains were also damaged.

The high winds did considerable damage to small grains in some of the rotations in the main field, and to grasses that were just coming up in the south field. The damage was the most severe that has occurred in the rotations. The damage was mostly confined to a few rotations along one of the roads through the field.

Crested wheatgrass has been showing the lack of moisture during the past week.

Corn was planted in the rotations on the 19th, which is the average date of planting this crop. Corn varieties have been planted and all planting of corn will be completed to-day, May 23. The early date of corn planting was badly frozen and may require replanting. Potatoes were planted in the rotations.

The growth of small grains has been much retarded during the week.

A light snow fell on the night of the 18th and flurries occurred on the 19th. In 1924 the temperature dropped to 23 degrees on May 24.
Maximum temperature 70; minimum 23; precipitation, .13 inch.

Cooperative Grazing Experiment

The cattle seem to be getting adjusted to their various pastures. Bromegrass is in good condition for grazing, but the growth of native vegetation has been slow. Even with good rains a normal production of native vegetation can hardly be expected.

Fence repairing has continued during the week.

Mandan, continued:

Arboriculture

All species-testing blocks, shelter-belt combinations, pruning experiments, and the main windbreak, have been cultivated with the one-horse cultivator. All nursery fields where seed was planted this spring, have also been cultivated.

All caragana hedges have been hoed and part of the windbreak. Dead wood, removed from testing blocks, has been hauled away.

Thirty-two conifer seed beds have been planted with Black Hills spruce, Colorado Blue spruce, Englemann spruce, Scotch pine, and Western Yellow pine. A new pipe line has been laid from the water tank for watering conifer seed beds.

Horticulture

Further severe frosts during the week have killed practically all apple and crab blossoms. Plums were also severely damaged, while currants and gooseberries, and most native fruits seemed to be more resistant.

Potatoes were planted on May 22 and 23. The usual variety trials and spacing experiments are being carried on.

The top soil is very dry and blowing has been troublesome in places.

The week has been very unfavorable for garden crops. High winds and killing frosts at night prevailed during four days. The damage as checked after warm weather arrived again is, as follows: Radishes, carrots and beets, 75 per cent killed. Cucumbers, beans and sweetcorn which were just emerging, 10 per cent killed. The stand of these latter crops is expected to improve as ungerminated seed may germinate later. Cabbage was damaged some in the Acre garden but will recover. In the Coulee garden where the soil is much sandier, the stand is almost a total loss.

The foliage of trees and shrubs about the station was also severely frosted. Tulips escaped injury. A bed of 450 Darwins, var. Bortizon, planted last fall, is at present making a good display of brilliant red bloom. The tree and shrubbery groups have now been spaded.

The prolonged drought is now telling on the blue grass lawns; irrigation of these has been carried on for the last two days.

BELLE FOURCHE:

With the exception of two moderately warm days, the week has been abnormally cool, and a small amount of snow was received. Frost occurred on three successive nights, and the temperature dropped to 21 on the morning of May 21. In only one other instance, May 7, 1923, has an equally low temperature been recorded in May since 1908. The freezing weather did extensive damage to various crops, trees, and shrubbery. Alfalfa, sweet clover, and field peas were badly frosted, and reseeding of peas may be necessary. Flax and early-seeded small grains escaped practically uninjured. The few apple blossoms and buds which had survived previous frosts were killed, and very little fruit of any kind will be produced this year.

The continued shortage of moisture has become quite serious. A total of only 1.24 inches precipitation has been received since April 1, as compared with the average total precipitation for April and May of 4.34 inches. Soil samples taken May 21 show all of the available moisture to be exhausted from the soil to a depth of three feet on plots cropped the previous year. Winter wheat and winter rye have made no advancement for about ten days, and winter rye apparently will not complete heading until after a beneficial rain is received. Early-seeded spring grain is starting to wilt, and it is doubtful if enough moisture remains in the surface soil for good stands of corn to be secured.

Field work has consisted of manuring, plowing, disking, and harrowing fallow plots; harrowing corn plots; cultivating alleys; and planting potatoes.

Visitors during the week were, Dr. S. S. Buckley, of the Animal Husbandry Division, and Mr. O. R. Mathews, Superintendent of the Ardmore Field Station.

Maximum temperature 78; minimum 21; precipitation, .01 inch.

ARDMORE:

The weather during the week was characterized by absence of precipitation, high wind velocity and unseasonably low temperatures.

Temperatures on May 19 and 20 reached minimum values of 21 degrees and 24 degrees, respectively. It was estimated that 75 per cent of the alfalfa was frozen back to the ground surface. Peas, flax and garden crops were injured

Ardmore, continued:

to a limited extent. All ornamental shrubs, fruit trees, ash and locust trees had their foliage frozen. Small grain was not affected.

Field work for the week consisted of trimming of fields and plots and cultivation of roads and alleys. The 20-acre fallow in Field 13 was cultivated with the duckfoot.

Dr.S. S. Buckley, from the Bureau of Animal Industry, was at the station during the week, attending to the vaccination of the pigs.

The steer wintering experiment was completed during the week and the steers put on pasture. Season gains in the various rations are as follows:

Alfalfa	52.2 lbs. per head.
Sorgo	57.3 lbs. per head.
Silage	4.6 lbs. per head.

Maximum temperature 85; minimum 21; precipitation, none.

ARCHER:

The warm weather of the latter part of last week extended to the first day of this week when it turned very cold for this time of the year. The average minimum temperature for the week was 30 degrees and the average maximum was 65 degrees. The low extreme in each case was 16 degrees and 39 degrees, respectively. The wind was gusty, carrying, at times, traces of snow. The clouds hung low and gave a feeling of an oncoming blizzard. This condition ended during the night of May 21 and 22. To-day, May 23, is warmer but windy.

These conditions have not been favorable for vegctative growth; however, the frost damage was not as great as the temperatures would indicate. The change to the minimum temperature was gradual and the warmer temperatures returned slowly with cloudy weather. The alfalfa was badly nipped and the leaves of some of the more tender shrubs were frozen. The emergence of crops has been delayed and growth thereafter has been slow. Rain is badly needed.

Archer, continued:

Work at the station has consisted of duckfooting the land in the dairy field which is to be seeded to millet and Sudan grass. The alfalfa and crested wheatgrass in the east end of the dairy field, which was seeded last year, have been harrowed and raked to remove the dry Russian thistles. The graveling of the road to the Lincoln Highway has been completed. A number of trees and shrubs were obtained from the Pole Mountain forest reserve and planted at the station. The dry dairy stock were taken to the Umbarger pasture and the dairy stock retained at the station were turned out to pasture. Miscellaneous seedings of corn and small grains in the experimental field were completed. Considerable fence repairing was accomplished.

Maximum temperature 76; minimum 16; precipitation, .01 inch.

AKRON:

Decidedly cooler weather prevailed during the week without in any way interfering with current field work. The response of the early spring-seeded small grains to this cooler weather has been marked; the week passed without further manifestation of the drought damage to the winter wheat crop. By this week-end there is real promise that early spring-seeded small grains may yet shade out some of the numerous Russian thistles that have become established on the plots.

Pasture pigs were given their monthly weighing last Monday, May 18. Uniform cropping series corn was seeded early in the week. Experimental plot alleyways were cultivated. Ground for variety corn experiment was double disked and then listed-out preparatory to seeding by nosing-out the old furrows. Ground lists heavy indicating a firm compact condition of the soil, but with apparently enough moisture to support immediate germination. Corn seeded April 20 is emerging very unsatisfactorily.

Considerable time was spent this past week in cleaning up some of the forage feed stocks about the station grounds and in checking up and discarding excess grain stocks from the grain storage room.

Orchard trees are practically leafed out and a few blossoms are appearing. Cherries continue to bloom. Cherries set before the low temperature of the past week appear to have been frozen but blossoms opening now appear to have a live stigma. Forest trees are only just leafing out. Shrubbery about the building foundations is only leafing out.

Akron, continued:

The temperature descended to 26 degrees on the night of May 19. Besides the cherries mentioned above, this freeze damaged asparagus in the garden but did not damage emerging corn in the date of seeding corn experiment.

Maximum temperature 84; minimum 26; precipitation, .15 inch.

NORTH PLATTE:

Growing conditions were very unfavorable during the past week. Low temperatures, high winds, and no precipitation combined to hold crops back and in some cases caused deterioration. Severe freezing occurred on May 20 and 21. Minimum temperatures reached 23 degrees on the bench and 27 degrees on the table. Below freezing temperatures persisted through a seven-hour period on the 20th. Potatoes which had just emerged to good stands are frozen down completely. Leaves on many trees and shrubs are blackened. As this is the third time that some trees and shrubs have been almost defoliated by freezing this spring, it would not be surprising if some of them would cease to make an effort. Corn planted on the 12th and 13th is just beginning to emerge.

COLBY:

This has been a wintry week. The hot weather at the close of last week was followed by unseasonably low temperatures on Tuesday, May 19, which continued throughout the rest of the week. On the morning of the 20th the minimum temperature was 27. This was followed by a trace of snow and rain with low temperatures throughout the day. On the 21st it showered all day, and the next morning everything was coated with ice and about the heaviest coating of hoar frost we have ever seen in this section. Small pools of water had ice as much as a quarter of an inch thick, and even the ground was frozen at the surface. Tender plants such as potatoes were nipped by both freezes, but most of the thistles still survive. The field small grains appear to have escaped injury.

The plowing and packing of the fallow plots were finished. The roadways in the new project were plowed and disked. The rye is almost headed and will be ready for turning under the first of the week.

Maximum temperature 90; minimum 27; precipitation, .41 inch. Freezes on the 20th, 27 degrees, and on the 22nd, 29 degrees.

GARDEN CITY:

Rye green manure plots were plowed under on May 20. Stand was rather thin but growth was tall. All were headed out well. Ground under the rye was extremely dry and hard for this time of the year.

Cultivation of plots was started the afternoon of the 20th. One-half day's cultivation was gotten in. Thursday morning, May 21, it was raining and after eight o'clock it started snowing. Snow fell continuously until noon. The ground was covered with a heavy blanket of approximately three to four inches. Wheat was weighed down flat on the ground. All of the wheat has not straightened up yet.

During the night of the 21st temperature went down to 28 degrees. There has been quite a bit of speculation as to the amount of damage done to wheat but at the present time no damage is showing up. Tender flowers and garden vegetables were frozen back.

Precipitation in the form of rain amounted to 1.58 inches, and in the form of snow to .68 inch, making a total of 2.26 inches of moisture, the total amount for the week. It all came so slow that there was no run-off noticeable. It was one of the best rains ever recorded here for lack of run-off and waste.

Wheat was badly in need of moisture. Fields over the county were showing large spots of wilted wheat, some of it was firing. All wheat on the project needed moisture badly. The available moisture supply had practically been exhausted in the upper three feet.

Maximum temperature 93; minimum 28.

HAYS:

The maximum temperature was 87, minimum temperature 29, precipitation 1.08 inches, and two frosts. The first frost occurred on the morning of May 20 and the second on the morning of the 22nd. The minimum temperature for both days was 29. The first frost apparently did not injure any plant growth. The second was a very heavy frost and thin ice was formed on shallow water. Some injury was apparent with tender garden crops and barley seems to have suffered more or less injury, just how much it is impossible to say at this time. Oats, spring wheat and winter wheat seem to have escaped without injury.

Hays, continued:

The rain has improved the condition of wheat which a week ago had the appearance of suffering from drought. In spite of the thick heavy growth frequently reported earlier, the straw is going to be thin on a large area. A large percentage of the culms having failed to produce stalks and the heads are going to be short. This is generally true on all methods of preparation except on green manure land and on fallow where there is far too much straw, and on corn stubble land where the growth is also heavy but not so thick as on the green manure and fallow. At this writing it seems probable that wheat on corn stubble ground may be able to finish with better yields than that on fallow and on most other methods.

There is considerable Hessian fly and stem maggot injury in the wheat in this vicinity. The thin wheat being reported now is partly but not wholly due to these insects. The fly infestation is much heavier north. Two fields inspected about eleven miles northeast of Hays show losses by fly of from 30 to 50 per cent by the spring brood. This is a very conservative figure on these fields because in making the counts only culms which failed to develop stalks on account of the fly were counted. In addition to this loss there is a percentage of the well developed stalks carrying fly which will break down later. Twelve miles south of Hays several inspections failed to discover any fly. It seems that Hays is in the southern edge of an infested area. We have been unable to make a thorough survey of the extent of the area or the amount of damage. It is believed, however, that the heavily infested area is not large.

Cultivation for destruction of vegetation on fallow, corn and kafir ground was continued during the early part of the week and preparations made for corn planting but rain prevented the planting.

In the absence of the soil laboratory a portion of the seedhouse is being remodeled for use as a laboratory.

TUCUMCARI:

Unusually cold weather is continuing, with May to date some eight degrees below the long-time average mean. A temperature of 35 degrees the morning of the 22nd was the lowest since April 26, when 33 degrees was registered. It is very possible that some parts of the county received a light frost yesterday morning, May 22, although no reports have been received. Wheat on the plains is unusually heavy and both acre yield and acreage promise to break all records for this county.

Tucumcari, continued:

In spite of the cold soil, corn varieties, M. C. kafir, sorgo, and corn, and corn borer investigation plots planted eight days ago are emerging to stand. Cotton planted twelve days ago show $\frac{1}{4}$ to $\frac{1}{2}$ stand.

During the week increase plantings of kafir and planting of Sudan pasture were made. The delay for warmer weather and soil has resulted in drying of the surface soil somewhat and very soon additional surface moisture will be required if seeds are to germinate promptly after planting.

Work the past week included leveling of tree rows, hoeing weeds from tree rows and field borders, and pulling squirrel-tail grass which is unusually thick this spring.

Maximum temperature 87; minimum 35; precipitation, .13 inch.
Wind velocity, 5.8 miles per hour; evaporation, 1.753 inches.

DALHART:

The rain of 1.24 inches which fell the night of May 20 was beginning to be needed for the winter wheat and will permit planting in a good seed bed as soon as the ground is sufficiently dry for planting. The disadvantages of this rain include that of crust breaking for emergence of the crops planted before the rain. The ground was not dry enough to break the crust to-day but a hard crust is in process of forming.

The planting accomplished the fore part of the week included the following: The corn rotation plots, the corn variety plots, the third date of planting of the cotton plots, the soybean plots, and Pinto beans. An examination this afternoon indicates that all of these have germinated or are swelling.

Cotton planted on May 5 is up to a good stand. The cotton planted on May 11 is just showing slight emergence. The weather the latter part of the week has been too cold for emergence.

A large amount of very fine hail accompanied the rain received this week. But slight damage was done on the station. Just a few broken straws are in evidence in the wheat. A few farmers report severe damage but the hail was too fine or soft to really do more than break a few straws.

Dalhart, continued:

The sorghum varieties planted on May 15 are showing slight emergence.

Mr. Constantine P. Ladas, a university student in this country and a citizen of Greece, was a station visitor throughout the week.

Maximum temperature 87; minimum 36; precipitation, 1.26 inches.
Wind Velocity, 8.5 miles per hour; evaporation, 1.820 inches.

BIG SPRING:

Weather conditions during the past two weeks have been very favorable for all kinds of field work. Two cold snaps during this time have not been so conducive to plant growth. In fact much of the cotton that has emerged is making very little growth. On the night of May 21 the thermometer dropped to 46, while the maximum for the previous afternoon was 96.

Disking, harrowing, and planting have kept the station force busy the greater part of the time. The rotation field was disked, harrowed, staked, and partly planted. Cotton, cowpeas, corn, broomcorn, and Sudan grass were planted in this field during the past week. In the cooperative field rate and varieties of cotton were planted as were also the May 15 date of grain and forage sorghums. This date of grain and forage sorghums are up to good stands at the present writing. Cowpea and soybean varieties were also planted.
Maximum temperature 96; minimum 46; precipitation, .11 inch.

LAWTON:

Widely fluctuating temperatures with intermittent periods of high wind velocity, several days of threatening, cloudy weather and a few showers interrupted field work, and was unfavorable to germination and emergence of row crops.

Planting and replanting of all row crops except certain date-of-seeding projects was completed May 21.

Lawton, continued:

Lodging is increasing very rapidly and very extensively in all winter barley varieties and in the early seeded date plots. Most of the barley variety plots with the exception of Orel are lodged nearly 100 per cent. Maturity of this variety is considerably later and it will likely lodge as fully as any other variety. Some barley harvesting will likely be done about May 27 to 29.

Most of the wheat varieties are in the soft dough stage. Prelude x Kanred is lodging more than any other variety at the present time. This variety is also approaching maturity quite rapidly.

The season to date has been very favorable to the production of worms and complaint of such injury, principally to farm gardens, is very prevalent. The cabbage looper and the army worm are causing the principal damage.

Dr. C. E. Leighty and Mr. E. F. Chilcott visited the station May 23 and 24.

Maximum temperature 85; minimum 41; precipitation, .49 inch.

WOODWARD:

The first part of the week was hot and windy, but rain occurred on May 21 and 22, and the temperatures have been mild since the rain. Before the rain some tender, rank growing crops were suffering from the intense, sudden heat following the rainy period ending May 7. Wheat continues to make good growth, but spring rowed crops and alfalfa are somewhat backward for this time of the year.

Station work for the week consisted of harvesting wheat and rye hay from plot roadways, rogueing wheat and rye plots, planting corn, cotton, peanuts, artichokes, etc., and general cultivation of field crops and nursery. Considerable progress was made on construction of new laboratory building.

Dr. C. E. Leighty, Head of the Division of Dry Land Agriculture, from Washington, D. C., arrived at the station on May 19. He left on the 22nd in company with Mr. E. F. Chilcott on a tour of inspection of other stations in the Southern Great Plains group.

Maximum temperature 95; minimum 35; precipitation, 1.13 inches.

Evaporation, 1.638 inches.

PENDLETON:

The past week has been very windy, blowing first from the west and then from the northeast. These winds take considerable moisture out of the soil.

The total rainfall during May to date is but .15 inch. In May, 1929, we had .75 inch rain and during May, 1930, we had 2.32 inches rain. For the period September 1, 1930 to May 24, 1931, we have had 11.35 inches precipitation, during the same period September 1, 1929 to May 31, 1930, the precipitation amounted to 11.21 inches so that the precipitation is practically the same for the two years.

Some sections of central eastern Oregon are becoming quite concerned by the lack of rain, many small streams are already drying up and wells and springs are failing.

Frost on May 18 and 19, with temperatures of 26 and 27, killed a few beans on the rotation plots. Frost also nipped the tips of leaves of spring sown Federation in the lower spots on the station. The frost did not injure the corn although it killed tender flowers such as zinnias.
Maximum temperature 82; minimum 26.

NOTE:

On April 28, 1931, Mr. Lewis N. Jensen died at Amarillo, Texas, after an illness of seven weeks following an operation for appendicitis. Mr. Jensen served several years as investigator upon various field stations of the Division of Dry Land Agriculture. He resigned from the service April 30, 1919. At the time of his death he was engaged in the insurance business.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

May 30, 1931.

Not for publication without
prior consent of this division.

REPORTS FOR THE WEEK ENDING MAY 30, 1931.

PENDLETON:

Dry weather still continues in this region. A good rain within the next two weeks will assure fair yields in this particular section, although some of the drier regions will not receive even fair yields with a good rain. Rainfall during May was only .15 inch.

This week the alfalfa, orchard grass and tall oat grass were cut and stacked. The alfalfa yielded about one ton per acre, and the grasses about three-quarters of a ton per acre. Neither the alfalfa or grasses will produce a second crop of any size unless heavy rains occur soon.

For the past ten days two men have been roguing and pulling weeds out of the plots in the cereal project. Mr. Foster Martin, who will have charge of the cereal project here, is due to arrive June 17. Mr. Martin completed work for his masters degree at Kansas State Agricultural College in May.

Mr. D. E. Stephens and Mr. Robert Webb, from the Moro Station, were station visitors May 30 and 31, making some wheat hybrids.
Maximum temperature 94;

HAVRE:

Weather for the past week has been practically a continuation of that of the previous week. Wind velocity however has been somewhat less. There has been no rain and spring crops are making very slow growth. While stands on the plots are quite uniform, many fields of spring grain in this section of the State show spotted stands. Winter wheat that had not previously burned is still in fair shape but will need rain in the near future. Cutworm damage was less than it has been.

On May 27 and 28, local showers occurred in many portions of this part of the State. There are dry areas all over the northern part however. One shower hit within 10 miles of the station.

Native grasses have made practically no growth, excepting in the mountains, and conditions for many of the stockmen are very serious.

Havre, continued:

Most of the sugar beets in the irrigated section were irrigated up, which has caused irregular stands.
Maximum temperature 88; minimum 40; precipitation, trace.
Evaporation was unusually high on the 25th when, over one-half inch was recorded.

JUDITH BASIN:

General rains during the past week have improved crop and soil conditions considerably. A light rain fell on the evening of May 25 and was followed by an all-day rain May 26. Additional showers were received on May 27 and 28.

With the exception of the corn planting on the rotations and the seeding of 20 acres of oats for hay, very little field work has been done during the week. Other work consisted of building fences and general repair work on the station buildings.
Maximum temperature 83; minimum 37; precipitation, .75 inch.

HUNTLEY:

Much of the past week has been cool and cloudy and two sprinkles of rain were received. These conditions refreshed crops temporarily, although the condition of the crops on the whole appears to be about the same as it was a week ago.

Corn planted May 14 is coming up in spots but for the most part the seed is still unsprouted. Cloddy corn plots were rolled to crush the lumps and imbed them in the loose soil where they will have a better opportunity to soak up when it rains.

Hogs on the pastures were weighed at the end of the first two-week period. All made satisfactory gains considering the quality of the forage available.

Other field work during the week consisted of planting beans, potatoes, soy-beans, sorgo and Sudan grass and cultivating roads.
Maximum temperature 93; minimum 37; precipitation, .05 inch.

SHERIDAN:

A fair rain on May 27 improved moisture conditions temporarily again. Brome was beginning to fire badly in spots before the rain. Condition of all other crops continued fair until the rain, and now appear to be good. Growth continues slow, however.

Roadways were lined early in the week, and the most of them disked the 29th. Hogs were vaccinated the first of the week.

Killing of stock in the shelter belt now proves to have been much greater than was thought earlier in the spring. Of the Northwest poplar in the shelter belt, only a part of the east row in the block immediately south of the railroad remains alive, although the most of that row and some in the block next to the highway appeared to be alive earlier. The most of the box elder remaining in the original shelter belt killed to the ground. Chinese elm in the shelter belt killed back badly again, although there was practically no killing back of the same stock in the clumps about the buildings. American elm also killed back badly, the first time that this stock has killed to any extent here. More of the willows left in the original shelter belt were also killed. Some trimming of the dead work was done during the week.

Maximum temperature 90; minimum 41; precipitation, .93 inch.

DICKINSON:

A shower of .54 inch on May 27 has been of much benefit to all vegetation and is causing seed that had been planted several weeks to germinate.

Oats, barley and a few wheat plots on the rotations, which had been injured by drought, wind, freezing or cutworms, or a combination of one or more of these factors, were reseeded May 25 and 26.

Most of the fallow plots on the rotations were plowed May 28 and 29 and all were harrowed.

Corn on the rotations planted May 14 is emerging where enough water was available for growth.

Alfalfa has made only a short growth and some of it on the drier locations is dead. Pastures and cultivated grasses are short and unless heavy rains come soon the hay crop will be very light.

Maximum temperature 95; minimum 40; precipitation, .54 inch. Precipitation May 1-30, 1.21 inches. Precipitation January 1 - May 30, 1931, 3.23 inches. The normal for the first five months of the year is 5.26 inches.

MANDAN:

Agronomy

A good rain, of much benefit to all crops, fell during the week. High winds prevailed on two days, but the damage from blowing was not as severe as during the previous week.

Millet varieties were seeded during the week.

Rain started about noon on May 27 and lasted until about 8 o'clock. A total of 1.47 inches fell at the station and 1.50 inches at the pasture. The soil was so dry that most of rain was taken up without much run-off.
Maximum temperature 93; minimum 43; precipitation, 1.51 inches.

Cooperative Grazing Experiment

The rain should prove of much benefit to native vegetation and bromegrass.

The cattle appear to be doing well on their pastures.

Arboriculture

The hot winds prevailing in the early part of the week did considerable damage to the tops of young tree seedlings in the nurseries. The rain later has had a very beneficial effect on both seedlings and trees. Caragana seed planted the latter part of March is now showing signs of germination.

Seed of American and Chinese elm, which escaped damage by the late frosts, has all been blown off by the high winds prevailing during the week. It will not be possible to gather seed of either of these species on the station this year.

Horticulture

The rain on May 27 was of great benefit to all horticultural crops.

The grounds surrounding the buildings were irrigated early in the week, and the flower beds have now been planted.

Planting in the Acre garden is almost complete. Vegetables from the earlier plantings are now coming up. Replanting of some that were caught by frost has been necessary.

The orchards are being hoed. Fruit will be scarce this year due to the severe spring frosts.

BELLE FOURCHE:

The first half of the week was unusually hot, and strong, warm winds prevailed. A temperature of 95 degrees was attained on May 25, which is equal to the highest temperature for May on record at this station. Only six days previous, however, a minimum temperature of 21 occurred, which was equal to the lowest on record for May. A much needed rain of .90 inch precipitation was received May 26 and 27, and the weather continued cloudy and threatening during the remainder of the week.

Most all crops have shown a great improvement since the rain. Winter rye has resumed heading, and spring grain has made a rapid, vigorous growth. Field peas and sweet clover are recovering in good shape from the effects of the frost last week. Corn is coming up, but owing to the dry condition of the seed bed at the time of planting a good stand thus far has been obtained only on fallow.

Maximum temperature 95; minimum 38; precipitation, .91 inch.

ARCHER:

During the week the weather was dry and windy until the afternoon of May 27, when it started to rain. The storm ended during May 29. The total precipitation during this period was .99 inch. This much needed rain has changed the outlook considerably.

The winter cereals were burning and the soil was so dry that the seeding of millet and other late crops held but slight prospects. The prairie grasses were beginning to burn.

Work at the station consisted of duckfooting and harrowing the potato and bean rotation plots, and the listed fallow land on Series I, J, K, and L was duckfooted. Beans were seeded in the dairy field and the potatoes received from the University of Wyoming were prepared for planting.

Governor Clark and party visited the station May 26. Mr. H. W. Biederman, Associate Editor of the Nebraska Farmer, visited the station on May 29.

Maximum temperature 84; minimum 33; precipitation, .99 inch.

AKRON:

Maximum temperature reached 91 on Tuesday, May 26, after which time rains and cooler weather prevailed. The total precipitation for the week has been .68 inch, which is very good temporary relief from the drought that has prevailed this spring. Winter wheat was just beginning to burn seriously and it is not expected that it was damaged severely. Spring grains are very weedy as a result of the prolonged drought. Should favorable rains prevail during June there is every reason to expect a good average yield of the small grains.

Work during the week consisted of cultivating the north (No. 2) windbreak planting, the last year's sorgo stubble for fallow and for Sudan grass, and the partial seeding of the corn variety experiment. The seeding of the corn variety experiment was started Thursday noon, May 28, but the team was driven from the field early Friday morning by a drizzling rain which prevailed during the day. Other work has been the completion of the sorting over and discarding of excess grain seed supplies, the hand picking of bean varieties, painting stakes, etc.

Rate and spacing corn is emerged and shows perfect stands. Rotation corn plots are partly emerged and show good stands thus far. April 5 seeding of corn in the date of seeding experiment shows very poor stand. April 20 seeding in same experiment is emerged to satisfactory stands. May 5 seeding is just emerging.

Maximum temperature 91; minimum 43; precipitation, .68 inch.

NORTH PLATTE:

Field work for the week has consisted of planting sorghum varieties and proso in the Cereal project, cleaning up around the irrigation pumping plant and getting it into shape for the coming season and some cultivation of roadways and alleys on the D. L. A. project.

The Feeders' meeting which was held the 28th was well attended, the crowd numbering between 300 to 400 people. The minimum temperature for the week was 46 degrees while the maximum was 91. Precipitation, amounting to .04 inch, fell during the night of the 26th, which brings the total amount recorded so far in May up to .15 inch.

Winter wheat on some of the D. L. A. plots is suffering considerably from the hot, dry weather.

COLBY:

The weather has been rather unsettled this week. Periods of high temperatures alternated with periods of really chilly weather. Clouds and showers alternated with high, drying winds. It was a favorable week for field work, and for the growth of corn which is now up to good stands. Spring small grains made some growth, but suffered slightly from the drying winds. Winter wheat in the rotations deteriorated in condition. None but the fallow plots are particularly promising at this time. On the fallow plots the growth of straw has been checked some, which ought to be beneficial. The tips of the leaves are burnt some but otherwise the plants still maintain a deep dark green color. The continuously cropped plots are rather sickly looking in comparison. The wheat is rather short, more or less spindly, yellowish in color, burnt in spots, and unthrifty appearing in general.

Hessian fly and straw worm are found more or less abundantly in this vicinity. These insects add to the generally unthrifty appearance of many fields of wheat in this section, even where there does not appear to be a lack of moisture. Practically all fields on fallow show very promising, but most of the other fields appear to be suffering from some inhibiting factor, other than moisture.

The rye plots were turned under the first of the week. The growth was not as heavy as is usually the case when we have an abundance of moisture in the spring as we had this year. The furrow slice was still slightly moist when the crop was turned under.

The county agents from the neighboring counties visited the station yesterday, May 29.

Maximum temperature 92; minimum 41; precipitation, .58 inch.

GARDEN CITY:

Cultivation and preparation of plots occupied most of the time devoted to field work the past week. Friday and Saturday, May 29 and 30, most of the row crops were planted on the Dry Land Station. The ground was in ideal condition and contained an abundance of surface moisture.

Most all wheat plots are completely headed out. Since the rains of last week all wheat that previously showed signs of a shortage of available moisture have recovered and are developing rapidly. Soil moisture samples taken on Thursday of this week show a very low moisture content below the surface two feet. This is especially true of continuous cropped plots and quite evident from observation on the fallow plots.

Garden City, continued:

Temperatures the past week have been unusually cool. Most of the time cloudy weather has prevailed, threatening rain every day; one-tenth inch fell the night of the 28th.

Dr. Leighty and Mr. E. F. Chilcott visited the station May 30.
Maximum temperature 90; minimum 40; precipitation, .10 inch.

TUCUMCARI:

Weather the past week has been favorable for field work, but additional surface moisture would have been welcome on some plots. Plantings included the completion of center field rotation and M C plots, grain sorghum variety plots and nursery rows, Grohoma and Dwarf milo spacing test, cowpea variety plots, broomcorn variety plots, and considerable increase cowpeas, Sudan, and kafirs.

Rain, which is threatening, should put fields in excellent condition for the completion of rotation plot-planting, as well as for increase rowed and broadcast sorghums. Favorable conditions will permit completion of planting next week.

Wheat and rye plots are in excellent condition, while wheat over the county is promising high yields.

Precipitation in May has totaled 1.20 inches to date, of which, .78 inch fell the first two days. With the remainder falling in four showers, surface soil has dried rapidly the past ten days since temperatures have risen to nearly normal.

Visitors included Doctor C. E. Leighty and Messrs. E. F. Chilcott, and J. R. Horton.
Maximum temperature 91; minimum 45; precipitation, .29 inch.
Wind velocity, 5.3 miles per hour; evaporation, 2.034 inches. (6 days)

Later: Saturday morning, May 30: Rain and hail last evening, totaling 1.34 inches, caused considerable washing of fields and burying of seedlings. Hail did not injure small grains, but cut cotton leaves extensively. It is hoped no hail occurred in the wheat belt, but reports have not come in.

BIG SPRING:

Weather conditions have been very favorable for field work during the greater part of the week. A rain consisting of .51 inch fell on the night of May 27; this delayed field work the following day. A heavy downpour and hailstorm hit several sections of the county, and caused many farmers to replant their entire crop, but the station was fortunate enough to receive only a tenth of an inch at that time.

Cowpeas, corn, and broomcorn, which were planted last week, have emerged to good stands and cotton is up to about a seventy-five per cent stand at present. This rain should cause cotton to emerge to a full stand within a few days. Planting has continued during the week and considerable hoe work has been done.

Dr. C. E. Leighty and Mr. E. F. Chilcott were station visitors on May 25 and 26.

Maximum temperature 97; minimum 68; precipitation, .61 inch.

LAWTON:

Threats of rain that were almost continuous during the latter half of the week resulted in only .17 inch precipitation. In some parts of the county good rains were received throughout the month of May, but such conditions have been quite local. Station records show that precipitation on eight days during May resulted in a monthly total of .93 inch. This is the lowest amount recorded in May since 1886. The normal for the month is 5.03 inches.

Wheat and oats are in a critical need of moisture to properly mature the grain. Unless the moisture conditions are substantially improved in the near future, the grain on both crops will be pretty light. The growth of straw in most instances is quite rank and the foliage on wheat plots is nearly all dead. Although the April precipitation was deficient .89 inch and the May precipitation was 4.10 inches below normal, the cool temperatures and cloudy skies that prevailed were very favorable to the growth of wheat, oats, and barley.

The true army worm, and fall-grass worm are reported as doing serious damage to wheat, oats, row crops and truck crops throughout the southwestern part of the state. Considerable damage has been done to oats, truck and garden crops in the local county. The infestation on the station has been quite heavy and slight damage was observed on a few oat plots.

Lawton, continued:

Poisoned bran, the same as is used for grasshoppers, seems to have controlled the invasion quite quickly. Weather conditions during the latter half of the week were very favorable to the distribution and use of the poisoned bait, and excellent results were rapidly obtained.

All of the winter barley, except one variety, Orel, was harvested May 27 and 28. Row crops planted May 18 and 19 emerged to pretty good stands, especially cotton, within about eight days.

Mr. Sieglinger and Mr. Stephens, of the Woodward Station, made a brief visit to the station.

WOODWARD:

The early part of the week was very favorable for field work, with clear weather and temperature reaching 95 on May 26. Rain occurred on the 29th and 30th, totaling 1.49 inches. Although rain has occurred often and plentiful during March, April, and May, of this year, no damaging floods have been received in the vicinity of the station. Other sections, fifty to one hundred miles distant from the station, have reported heavy rainfalls causing considerable damage during the last three months.

Prospects for good yields of wheat and oats are very promising at this time, and pastures and row crops are in excellent condition, but somewhat backward for the season.

Station work for the week consisted of harvesting alfalfa hay, leveling row crops planted with lister and furrow openers, and continuing with construction work on new laboratory building and foreman's cottage.

Maximum temperature 95; minimum 57; precipitation, 1.49 inches.
Evaporation, 1.677 inches.